

REMARKS

The Office Action of April 3, 2007 was received and carefully reviewed. Reconsideration and withdrawal of the currently pending rejections are requested for the reasons advanced in detail below.

Claims 1-23 were pending prior to the instant amendment. By this amendment, claims 1, 3, 14, and 19, are amended; claims 24-27 have been added. Consequently, claims 1-27 are currently pending in the instant application.

Claims 1-4, 8, and 9 were rejected under 35 U.S.C. §103(a) as being anticipated over Yamazaki (2003/0059990). Claims 5-7, 10-23 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamazaki (2003/0059990). Yamazaki, however, fails to render the claimed invention unpatentable. Each of the independent claims 1, 3, 14, and 19 have been amended to recite a specific combination of features that distinguishes the invention from the prior art in different ways. For example, independent claims 1, 3, 14, and 19 recite a combination that includes, among other things:

irradiating a continuous wave laser beam to the crystallized semiconductor film in a direction from an upper surface of the crystallized semiconductor film to a bottom surface of the crystallized semiconductor film . . . removing an upper portion of the crystallized semiconductor film to which the continuous wave laser beam is irradiated, wherein the upper portion includes the upper surface,

(amended claim 1, ll. 7-12). Independent claim 3 recites yet another combination that includes, *inter alia*,

irradiating a continuous wave laser beam to the crystallized semiconductor film in a direction from an upper surface of the crystallized semiconductor film to a bottom surface of the crystallized semiconductor film . . . removing an upper portion of the crystallized semiconductor film to which the continuous wave laser beam is irradiated to reduce a concentration of the metal element in the crystallized semiconductor film to a lower detection limit of SIMS (secondary ion mass spectroscopy), wherein the upper portion includes the upper surface,

(amended claim 3, ll. 7-14). Independent claim 14 recites a further combination that includes, for instance,

irradiating a continuous wave laser beam to the crystallized semiconductor film in a direction from an upper surface of the crystallized semiconductor film to a bottom surface of the crystallized semiconductor film . . . using CMP to remove an upper portion of the crystallized semiconductor film to which the continuous wave laser beam is irradiated, wherein the upper portion includes the upper surface,

(amended claim 14, ll. 7-12). And independent claim 19 recites a further combination that includes, for instance,

irradiating a continuous wave laser beam to the crystallized semiconductor film in a direction from an upper surface of the crystallized semiconductor film to a bottom surface of the crystallized semiconductor film . . . removing an upper portion of the crystallized semiconductor film to which the continuous wave laser beam is irradiated . . . patterning the crystallized semiconductor film into a shape after removing the upper portion of the crystallized semiconductor film, wherein the upper portion includes the upper surface,

(amended claim 19, ll. 7-14). At the very least, the applied reference, whether taken alone or in combination, fail to disclose or suggest any of these exemplary features recited in independent claims 1, 3, 14, and 19.

Turning to the present invention, support for the feature of irradiating a continuous wave laser beam to the crystallized semiconductor film in a direction from an upper surface of the crystallized semiconductor film to a bottom surface of the crystallized semiconductor film, as recited in the claims, is found, at least, in FIG. 1C. Additionally, support for the feature of removing an upper portion (including the upper surface) of the crystallized semiconductor film to which the continuous wave laser beam is irradiated, as recited in the claims, is found, at least in FIG. 1D. Furthermore, the feature including when a continuous laser beam is irradiated to a crystalline semiconductor film formed by heating with the

addition of a metal element such that the metal element is segregated in the vicinity of (an upper) surface of the crystalline semiconductor film, as recited in the claims, is found, at least at page 6, lines 7-10 of the originally filed specification.

On the other hand, Yamazaki fails to disclose or fairly suggest irradiating a continuous wave laser beam . . . in a direction from an upper surface of the crystallized semiconductor film to a bottom surface of the crystallized semiconductor film and removing an upper portion (including the upper surface) of the crystallized semiconductor film,” as recited in independent claims 1, 3, 14, and 19.

In accordance with the M.P.E.P. § 2143.03, to establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 409 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 196 (CCPA 1970). Therefore, it is respectfully submitted that Yamazaki, taken alone or in any proper combination, does not disclose or suggests the subject matter as recited in claims 1, 3, 14, and 19. Hence, withdrawal of the rejection is respectfully requested.

Each of the dependent claims depend from one of independent claims 1, 3, 14, and 19 and are patentable over the cited prior art for at least the same reasons as set forth above with respect to claims 1, 3, 14, and 19.

In addition, each of the dependent claims also recite combinations that are separately patentable.

Support for the features of newly added claims is found, at least, at page 8, lines 1-6, or the originally filed specification. Embodiments of the present invention include a region including the region (from the surface to 50 nm) in which the metal element is segregated

being removed to leave a necessary thickness for the crystalline film (e.g., see page 8, lines 3-5 of the originally filed specification). Yamazaki, on the other hand, teaches away from the invention as claimed. For example, Yamazaki discloses “the catalytic element can be segregated in the gettering site 514” and “the gettering site 514 is selectively etched. In this step, the barrier film 509 can be used as an etching stopper when each of the heat retaining film 510 and the gettering site is selectively etched” (e.g., see paragraphs [0130] and [0131]). Thus, Yamazaki does not disclose the metal element segregated in the upper portion of the crystallized semiconductor film as recited in the claims. Furthermore, Yamazaki fails to disclose or fairly suggest removing only the upper portion of the crystallized semiconductor film for removing the segregated metal element as recited by the present invention.

In view of the foregoing remarks, this claimed invention, as amended, is not rendered obvious in view of the prior art references cited against this application. Applicant therefore request the entry of this response, the Examiner’s reconsideration and reexamination of the application, and the timely allowance of the pending claims.

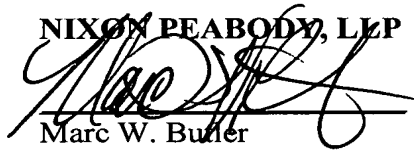
In discussing the specification, claims, and drawings in this response, it is to be understood that Applicant in no way intends to limit the scope of the claims to any exemplary embodiments described in the specification and/or shown in the drawings. Rather, Applicant is entitled to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation, and applicable case law.

Amendment under 37 C.F.R §1.114
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Should the Examiner believe that a telephone conference would expedite issuance of the application, the Examiner is respectfully invited to telephone the undersigned patent agent at (202) 585-8316.

Respectfully submitted,

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